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Intergenerational mobility of housework time in the United Kingdom*

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Abstract

This paper analyzes the relationship between parents' time devoted to housework and the time devoted to housework by their children. Using data from the Multinational Time Use Study for the UK, we find positive intergenerational correlations in housework for both parents, indicating that the more time parents devote to housework, the more time their children will devote to housework. Using data from the British Household Panel Survey, we find that a higher father-mother housework ratio is positively related to a higher child-mother housework ratio, even after allowing for individual fixed-effects. In order to address the potential exacerbation of errors-in-variables arising from the fixed-effects specification, we instrument the father-mother ratio of housework using father's and mother's lagged weekly working hours. The Instrumental-Variable estimates fully support the fixed-effects estimates, and suggest that the latter should be regarded as a lower bound. We also present evidence of the link between housework during adolescence and during adulthood, which may indicate that housework time during adulthood depends on the housework time during childhood, which may also be affected by parents' housework time. Our results contribute to the field of the intergenerational mobility of behaviors.

JEL CODES: J16, J22

KEYWORDS: *Housework, household, intergenerational transfers, Multinational Time Use Study, British Household Panel Survey.*

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1. Introduction

In this paper, we examine the relationship between the time devoted to housework by parents and that by their children, and the link between the housework time of those children when they are adolescents and the housework time of the same individuals in early adulthood, for a sample of couples with children from the United Kingdom. Prior research has shown transmission of preferences, values, and/or social behaviors between generations (Doepke and Zilibotti, 2012, 2014). For instance, Fernández, Fogli and Olivetti (2004) show that working mothers transmit a set of preferences to their sons towards marrying working women, Amato and Deboer (2001) and Wolfinger (2000) find evidence of intergenerational transmission of divorce behaviors, and Booth and Kee (2009) demonstrate the intergenerational transmission of fertility behaviors.

One of the attitudes that seems to be transmitted from parents to their children is that of the time devoted to housework. The transmission of attitudes to housework time is reflected, first, in the fact that women continue to devote comparatively more time to household tasks than do men (Gershuny, 2000; Bianchi et al., 2000; Gauthier, Smeeding and Furst, 2004; Sevilla, Gimenez-Nadal and Fernandez, 2010; Bianchi et al., 2012; Gimenez-Nadal and Sevilla, 2012), despite the increase in women's education and labor market participation. Second, women concentrate on routine and more time-intensive housework, such as cooking and cleaning, whereas men are more active in sporadic, less time-intensive tasks, such as gardening and repairs (Cohen, 1998; Hersch and Stratton, 2002; Sevilla, Gimenez-Nadal and Fernandez, 2010; Grossbard, Gimenez-Nadal and Molina, 2014).

The analysis of the determinants of housework time is important as housework lowers the wages of women (Hersch and Stratton, 1997; 2002; Bryan and Sevilla, 2011) and may also affect the patterns of partner selection (Gimenez-Nadal, Molina and Sevilla, 2012). Furthermore, the analysis of the time devoted to housework by men and women is essential in understanding poverty (Gammage, 2010) and the health status of individuals (Podor and Halliday, 2012; Gimenez-Nadal and Molina, 2015). However, the literature on the intergenerational transmission of the uses of time is scarce (Cunningham, 2001a, 2001b; Bianchi, Robinson and Milkie, 2006; Cardoso, Fontainha and Monfardini, 2010; Solaz and Wolff, 2015; Gimenez-Nadal, Molina and Ortega, 2016). Against this background, we examine the relationship between the housework time of parents and that of their children, and explore the potential channels of the transmission of housework time from generation to generation. In doing so, we consider the gender of both parents and children, given the gendered nature of housework.

We contribute to the analysis of the determinants of housework time (Kalenkoski, Ribar and Stratton, 2005; Aguiar and Hurst, 2007; Connelly and Kimmel, 2007, 2009; Gimenez-Nadal and Sevilla, 2012; Gimenez-Nadal and Molina, 2013), with a focus on the relationship between parents' and children's housework time. Few papers have directly analyzed the transmission of time devoted to domestic work across generations. Cardoso, Fontainha and Monfardini (2010) model time-allocation choices by youngsters into activities related to the acquisition of human capital and socialization, for France, Germany, and Italy, finding evidence of a link between time allocation by parents and by youngsters. Solaz and Wolff (2015) study the correlation between the housework time of parents and their co-resident young adult children, using the French time-use survey conducted in 1999-2000, and show a positive relationship between child and parental housework times. Gimenez-Nadal, Molina and Ortega (2016) analyze the relationship between parents' time devoted to housework and the time devoted to

housework by their children, in Germany and Spain, and find positive correlations between parents' and children's housework time. The type of data used in prior studies of the transmission of time devoted to domestic work across generations does not allow us to identify a causal effect, but in this paper we present suggestive evidence of the causal relationship between the time allocation decisions of members of the same household.

In our empirical analysis, we use diary data from the United Kingdom Time Use Survey (UKTUS) for the year 2000 as part of the Multinational Time Use Survey (MTUS), which contains information on individual activities throughout the 24-hour day, and we focus on children aged 11-18. Alternatively, we use the British Household Panel Survey (BHPS), a long panel survey of households in the UK with information on weekly housework hours, and we focus on children aged 16-18. It is well established that diary-based estimates of time use are more reliable and accurate than estimates derived from stylized questions on the amount of time spent on housework during the week (Juster and Stafford, 1985; Robinson, 1985; Bianchi et al., 2000; Bonke, 2005; Yee-Kan, 2008), and thus we expect measurement error in time use variables to be smaller when we use the UKTUS in comparison with the BHPS. On the other hand, the BHPS allows us to control for the unobserved heterogeneity of individuals in housework time (given its panel structure), while the UKTUS does not have a panel data structure. Furthermore, samples are different, as the UKTUS includes children aged 11 to 18, and the BHPS analysis is of children aged 16 to 18. All these differences may result in difficulties in reconciling the findings from the two datasets and, *a priori*, we cannot say which one is superior.

However, results from the UKTUS and from the BHPS are very similar. Using our preferred ratio specification, which focuses on the effect of housework division inequality on the child's involvement in domestic tasks, and potentially better allows for heterogeneity in the requirement of total housework time that may vary by demographic factors, health, or taste, in the UKTUS we find that an increase of one percentage point (pp) in the father-mother housework ratio is associated with an increase in the child-mother housework ratio of 0.30 pp for girls, and of 0.22 pp for boys. For the BHPS analysis, where we address the potential exacerbation of errors-in-variables arising from the fixed-effects (FE) specification, we instrument the father-to-mother ratio of housework using both father's and mother's lagged weekly working hours, and we observe that an increase of one pp in the father-mother housework ratio is associated with an increase in the child-mother housework ratio of 0.28 pp for girls and of 0.22 pp for boys. Consistent with Hersch and Stratton (1997, 2002) and Bryan and Sevilla (2011), all of whom conclude that housework is effectively exogenous in the FE specification, a Hausman test fails to reject the exogeneity of the father-mother ratio of housework in our FE specification. Furthermore, we link the housework time of adolescents with the housework time of the same individuals in their early adulthood, in an attempt to measure how housework hours during childhood/adolescence are related to housework hours in adult life. We find a positive correlation between housework hours during adolescence and during adulthood. If parents' housework time is related to children's housework time, and children's housework time is related to housework time in their early adulthood, our results may serve as evidence of the existence of intergenerational mobility of housework time.

Three channels can explain the associations between parents' and children's uses of time: intergenerational transmission of preferences, parental role model, or imitation. In the case of the intergenerational transmission of preferences, the prior literature has

shown that parents influence the preference-formation of the child (Carroll, Rhee and Rhee, 1994; Amato, 1996; Bisin and Verdier, 2000; Wolfinger, 2000; Amato and Deboer, 2001; Fernandez, Fogli and Olivetti, 2004; Fernandez and Fogli, 2006, 2009; Giuliano, 2007; Booth and Kee, 2009). Regarding the parental role model, derived from the model of Akerlof and Kranton (2000) on gender identity, there are gender norms about what a man or a woman should or should not do, with a social cost of deviating from the behaviors expected under these norms, and thus parents try to transmit these roles to their children so that they conform to the gender norms. However, it could be that children simply imitate their parents' behaviors, in a "doing by watching" attitude. As it is, the mechanisms that can explain the associations between parents' and children's uses of time are behavioral, which differ from the mechanisms generally argued as being at the root of the intergenerational transmission of income and labor market outcomes (Solon, 1992; Dearden, Machin and Reed, 1997; Holmlund, Lindahl and Plug, 2011; Black and Deveraux, 2011; Heráult and Kalb, 2014).

The rest of the paper is organized as follows. Section 2 shows the results obtained using time diary data, Section 3 shows the results obtained with the BHPS, and Section 4 concludes.

2. The United Kingdom Time Use Survey (2000)

For the analysis of the relationship between parents' and children's housework time, we use data from the United Kingdom included in the Multinational Time Use Survey (MTUS).¹ The MTUS is constructed from national randomly-sampled time-diary studies, with a common series of background variables, and total time spent in 41 activities (Gershuny, 2009). The MTUS provides us with information on individual time use, based on diary questionnaires in which individuals report their activities throughout the 24 hours of the day. For the UK data, two diaries are completed by respondents on selected days, and are divided into intervals where the respondent records a main activity.

For the analysis of parents' and children's housework time, we need a sample of young people who are living with both parents (i.e., one father and one mother). Furthermore, we need time-use information for both members of the couple. This limitation prevents us from carrying out a more general and up-to-date analysis, as the 2000 survey is the only UK survey included in the MTUS that has information for all members of the household. All household members over age 8 are asked to fill in time use questionnaires, and we have two diaries per child and two diaries for fathers and mothers. Additionally, diaries correspond to the same calendar days for all the selected household members. The final sample consists of children aged 11-18 who are living with both parents aged 60 or younger, and we impose no restrictions on the presence of other siblings in the household. Given the existing literature showing that the association in housework time between mothers (fathers) and sons is different from the association between mothers (fathers) and daughters (Olivarez and Miles, 2012; Solaz and Wolff, 2015), in our analysis we take into account the gender of the child.²The final

¹ Information on the variables, and on how to access the data, is available on the MTUS website: <http://www.timeuse.org/mtus>.

² Prior research shows that girls and boys are assigned different housework tasks (Antill et al., 1996; Benin and Edwards, 1990; Cogle and Tasker, 1982; White and Brinkerhoff, 1981), which may affect the intergenerational correlation of housework time. In this sense, the relationship between fathers' and children's housework time may be more important for boys, and the relationship between mothers' and children's housework time may be more important for girls.

sample consists of 894 observations of boys and 853 observations of girls, from 474 and 451 distinct young persons of each gender.

The MTUS activities are defined as the ‘primary’ or ‘main’ activity individuals were engaged in at the time of the interview, and we are able to add up the time devoted to any activity of reference (e.g., paid work, leisure, housework) as ‘primary’ activity. We consider the time devoted to housework, including the total time devoted to the following activities: “cook, wash up”, “housework”, “odd jobs”, “shopping” and “domestic travel”, by both parents and their children, measured in hours per day. This definition of housework time is similar to the broader definition of chores used in Grossbard, Gimenez-Nadal and Molina (2014), and includes all the categories in the MTUS that refer to household production activities. We do not include the general time devoted to childcare activities, and “domestic travel” refers to all the travel time associated with housework (e.g., travel to the supermarket) and childcare activities, as we cannot split housework travel from childcare travel. Examples of “odd jobs” include home/car maintenance or work errands.

3.1. Empirical evidence

We observe that children devote around 1 hour per day to housework, while fathers and mothers devote 2.1 and 4.5 hours per day, respectively (see Table A1 in Appendix).³ This gender gap in housework between mothers and fathers is consistent with Gimenez-Nadal and Sevilla (2012), who find a gender gap in housework favoring women in the UK during the 2000s. By gender of the child, we find that boys devote less time to housework compared to girls (0.85 vs. 1.21 hours per day), and in households where there is at least one boy, fathers devote 0.2 more hours per day to housework, compared to households where there are no boys. Furthermore, a higher proportion of boys (36.63%) relative to girls (22.14%) report no participation in housework activities during the day of the survey.

Figure 1A shows the kernel-density functions for the log of the time devoted to housework activities for boys, mothers, and fathers, on the left-hand graph, and girls, mothers, and fathers, on the right-hand side.⁴ We add unity to the time devoted to housework time before taking logs to allow for zero hours, and to make housework time closer to being normally distributed. The coefficient of variation (CV) yields higher values in the case of fathers relative to mothers (1.07 vs. 0.56) and, to the extent that the father and mother dispersions look quite similar, the difference arises because of differences in the mean. Such differences may indicate that while participation in housework activities is more sporadic for fathers, participation in housework activities for mothers can be seen as a “normal” behavior, consistent with prior evidence on gender roles (Álvarez and Miles, 2003; Gimenez-Nadal, Molina and Sevilla, 2012) and the existence of “male” and “female” tasks (Hersch and Stratton, 2002; Sevilla, Gimenez-Nadal and Fernandez, 2010).

Figure 1B shows the raw relationship between children’s and parents’ housework times, by gender of the child. The figures plot the average time devoted to housework by children against the time devoted to housework of each parent; that is, for all

³ Evidence that children have a low participation in housework chores can be also found in Bonke (2010) for Denmark, Cardoso, Fontaina and Monfardini. (2010) for France, Italy, and Germany, Álvarez and Miles (2012) for Spain, and Solaz and Wolff (2015) for France.

⁴ We use Epanechnikov kernel density function to show the probability density function of the variable.

households with the same amount of (log of) time devoted to housework by the father/mother, we average the time devoted to (log of) housework by the children, by gender. We then (scatter) plot the mean housework time of children (y-axis) against the time devoted to housework by fathers and mothers (x-axis). We have also added a linear fit to determine the extent to which scatters are distributed following a linear relationship.⁵ We observe that the linear fit points toward a positive association between the time devoted to housework by children and the time devoted to housework by their parents, as the slopes of boy's and girl's housework time against father's housework time are 0.17 and 0.16, and the slopes of boy's and girl's housework time against mother's housework time are 0.13 and 0.12.

We propose a way to control for the permanent heterogeneity of individual/household preferences for housework by normalizing the housework time of fathers and children. Different couples may have differences in the amount of housework they consider essential, leading to more time in housework by the two members of the couple, regardless of housework time by their children. Furthermore, different households may have differences in the productivities in housework (e.g., better-equipped household appliances), which conditions the time devoted by all the members of the household. Thus, we normalize the housework time of the father, and the child, by dividing by the mother's time in housework, as mothers present a higher participation rate in housework time. Thus, we define the child-mother housework ratio, $R^{cm}=HW^c/HW^m$, and the father-mother housework ratio, $R^{fm}=HW^f/HW^m$, where HW^i ($i=m,c,f$) denotes the time the mother, child, and father devote to housework, and R^{cm} and R^{fm} denote the child-mother and father-mother housework ratios, respectively.⁶ As will be shown later, this analysis of the ratio of housework offers a better fit of the data.

3.2 Empirical strategy

Using an adaptation of Black and Devereux (2011) and Stella (2013), we regress the log of housework time of children on the log of housework time of the father and the mother. We estimate the following equation:⁷

$$\ln HW_{jt}^c = \alpha + \beta_1 \ln HW_{jt}^f + \beta_2 \ln HW_{jt}^f * \text{son}_j^c + \beta_3 \ln HW_{jt}^m + \beta_4 \ln HW_{jt}^m * \text{son}_j^c + \gamma X_j + \delta \text{Day}_{jt}^c + \varepsilon_{jt}^c \quad (1)$$

where $\ln HW_{jt}^i$ denotes the log of the time devoted to housework by household member "i" ($i=m,c,f$ representing mother, child, and father respectively) in household "j" and day "t" ($t=1,2$). The indicators of mobility β_1 and β_3 represent the elasticity of children's time with respect to their parents' time, and β_2 and β_4 represent interaction terms between father and mother's housework time and child's gender (ref.: son) aimed at capturing differential effects by the gender of the child (Alvarez and Miles., 2012). ε_{jt}^c represents the error term of the equation.

The set of socio-demographic variables X_j includes the children's characteristics (son, age, working, student, unemployed), parent's characteristics (age, education,

⁵We include proportional weights so that the size of the dot reflects the proportion of diaries included in it.

⁶We omit mothers reporting zero hours of housework, as this leads to missing values of our variables of interest. For consistency, in the analysis of total housework times, we restrict the analysis to a similar sample.

⁷Foster and Kalenkoski (2013) compare the use of Tobit and OLS models in the analysis of the time devoted to childcare activities, finding that the qualitative conclusions are similar for the two estimation methods. Thus, we rely on OLS models, although we have alternatively estimated Tobit models, and our qualitative conclusions are the same.

unemployed, or working part-/full-time), and household characteristics (household size, number of children, and whether the household owns the dwelling).⁸The work status of individuals is defined as working part-time or full-time. Whether the young person is a student is obtained from a self-reported question included in the survey. The education of parents is defined according to three levels of education: less than secondary education (reference category), secondary education (high school diploma), and more than secondary education (some college or more). We do not include information on children's education, given that for children under 16 this information is not available (i.e., ineligible for education questions). More information on how the socio-demographic variables are computed can be found at <http://www.timeuse.org/mtus/surveys/GBR/2990>. We include parents' ages to capture differences in housework time behaviors across parental lifecycles, and day-of-the-week dummies to scale the day of the week (ref.: Saturday).⁹

As an alternative specification, we estimate the child-mother housework ratio as a function of the father-mother housework ratio.¹⁰This specification allows us to analyze how the gender distribution of household tasks between parents is related to the child's involvement in household tasks. We estimate the following equation:

$$R_{jt}^{cm} = \mu + \beta_5 R_{jt}^{fm} + \beta_{56} R_{jt}^{fm} * son_j^c + \gamma X_j + \delta Day_{jt} + \varepsilon_{jt} \quad (2)$$

where the dependent variable child-mother housework ratio (R_{jt}^{cm}) denotes the ratio of housework time of the child in household "j" and day "t" in relation to mother's time, as a function of the father-mother housework ratio (R_{jt}^{fm}). We also include an interaction term between the father-mother housework ratio R_{jt}^{fm} and whether the child is a boy, in order to allow differential effects depending on the gender of the child.

The fact that we have two diaries per child, and also for their parents, allows us to apply two estimators in the estimation of Equations (1) and (2). The first is the Ordinary Least Squares (OLS) estimator, the simplest type of estimator that does not take into account the unobserved heterogeneity of individuals and that is applied to cross-sectional data. The second refers to the Fixed-Effects (FE) estimator, which controls for the unobserved heterogeneity of individuals in panel data. Within this framework, while the OLS estimator simply considers the constant term as equal for all the sample (i.e., α and μ are the same for all observations), the unobserved heterogeneity of individuals in the FE estimator is captured by defining the constant term at the individual level (i.e.,

⁸ Columns (1), (2) and (3) of Table A1 show the set of demographic characteristics for all children, and then by the gender of the child, and Column (4) shows the difference in the set of demographic characteristics between the samples of boys and girls. Few differences between the boy and girl samples emerge.

⁹Whether the household pays for domestic help could matter for the amount of housework done by both parents and children. However, there is no such information in the UKTUS. In the BHPS, the proportion of mothers using any domestic help is less than 4%. We have alternatively included a dummy variable of paid domestic help in the household, and the coefficient is never statistically significant at the 5% level.

¹⁰Considering this ratio specification, an alternative analysis would be that of the boy/girl (in the same family) ratio as a function of the father-mother ratio, which would allow us to analyze the intergenerational transmission of the gendered distribution of housework time. We would expect the son-daughter (daughter-son) ratio to increase (decrease) with the father-mother ratio. However, the use of this outcome variable limits the analysis to households with at least one child of each gender. In the case of UKTUS, where time use information is available for children aged 8 or older (old enough to fill out the questionnaire), the sample is reduced to 156 households, and the analysis lacks any statistical power. The problem is even more acute with the BHPS, as we only observe the children over a 3-year window from age 16 to 18, and the number of distinct families falls to below 80. Thus, sample size considerations render this analysis moot.

they are specific for each observation, α_j and μ_j).¹¹

3.3 Results

Column (1) in Table 1 shows the results of estimating Equation (1) on the time devoted to housework by children, according to the OLS estimators, excluding all the socio-demographic controls. We find positive correlations between parents' and children's housework time, indicating that the more time parents devote to housework, the more time their children devote to housework. The R-squared indicates that 7.2% of the variation in children's housework time can be explained by parental housework time. Columns (2) and (3) in Table 1 show the results of estimating Equation (1) on the time devoted to housework by children, according to the OLS and FE estimators. We find positive correlations between parents' and children's housework time, indicating that the more time parents devote to housework, the more time their children devote to housework. According to our OLS estimator, an increase of 10% in the time devoted to housework by fathers and mothers translates into an increase of 0.93% and 0.97% in the time devoted to housework by children. We do not find differential effects by child's gender, as the interaction terms are not statistically significant at standard levels.

When we apply the FE estimator, results are roughly maintained. According to our FE estimator, an increase of 10% in the time devoted to housework by fathers and mothers translates into an increase of 1.16% and 1.54% in the time devoted to housework by children. Furthermore, we find no differential effects by gender of the child. Unfortunately, we have no time-variant variables, except for days when the diary was kept, which are included in the regressions, and thus we take these results as complementary and not as main results, given that we cannot control for the observed heterogeneity of children and their parents.

Comparing our results with prior studies, Gimenez-Nadal, Molina and Ortega (2016) find that, in Germany, a 10% increase in the time devoted to housework by fathers and mothers is associated with increases of between 1.3% and 1% in the time devoted to housework by sons and daughters, and in Spain a 10% increase in the time devoted to housework by fathers is associated with increases of 1.2% and 0.4% in the time devoted to housework by sons and daughters, respectively. Furthermore, Solaz and Wolff (2015), using French data, find that each additional hour devoted by parents to housework increases by around 5.6 minutes the time devoted by the child to these activities. Thus, our results are similar to those found in Germany and France, but not in Spain, as while mothers' housework time is associated with more time in housework by children in Germany and France, this is not the case for Spain.

Column (4) in Table 1 shows the results of estimating Equation (2) using the OLS estimator, but we exclude socio-demographic controls. We find positive correlations between the child-mother housework ratio and the father-mother housework ratio, indicating that the more time devoted to housework by the father in comparison to the mother, the more time the children devote to housework in comparison to their mother. Columns (5) and (6) in Table 1 show the results of estimating Equation (2) for the OLS

¹¹In the OLS estimator, we have clustered the error term at the household level to correct for correlation in the error term between siblings. Given that results of the OLS estimator are conditioned on several assumptions (e.g., normality and homoscedasticity of residuals), we also correct the standard errors of the regressions so that they are robust to some types of misspecification (non-normality). For the FE estimator, we have controlled for individual fixed-effects, while clustering at the household level, as there are not enough siblings to estimate a household (sibling) fixed-effect specification.

and FE specifications, respectively. Looking at the OLS results, an increase of one percentage point (pp) in the father-mother housework ratio is associated with an increase in the child-mother housework ratio of 0.31 pp for girls and of 0.20 pp for boys. For the FE results, an increase of one pp in the father-mother housework ratio is associated with an increase in the child-mother housework ratio of 0.30 pp for girls and of 0.22 pp for boys. These results indicate that the greater the time of the father in housework, the more time devoted by both boys and girls to housework, relative to the time devoted by the mother. Furthermore, the interaction term is negative and statistically significant at the 10% and 1% significance level for the OLS and FE estimator, which could indicate that the relationship between the father-mother housework ratio and the child-mother housework ratio is comparatively smaller for boys than for girls.

To the extent that mother's housework is less variable compared to father's, our results may suggest that the father's housework is relatively more important than the mother's in influencing the housework behavior of the children, given that any variation in father's housework time may be more visible to their children than the variation in mother's housework time. However, these results could be also interpreted as that the less the mother works relative to the father, the more the children work relative to the mother, and not about the importance of mother's and father's housework time. We leave this issue for further investigation.

We next analyze the intergenerational transmission of housework time, considering the different components of housework. The reason, at the root of the analysis, is that men typically concentrate on non-routine housework, while women concentrate on routine types of housework, which may affect how the transmission of roles is related to the type of activity. Thus, we have analyzed separately the categories considered as housework, mainly, "cook, wash up", "(other routine) housework", "shopping", "odd jobs" and "domestic travel". We have merged the time devoted to "odd jobs" and "domestic travel" into one category. We also analyze the category "child care". The results are shown in Table A2 of the online Appendix.

We find no relationship between parents' and children's time in cooking and washing up activities. One reason for the absence of relationship between parents and children's time in cooking/washing up may be that many households outsource meal preparation, and thus it is not an activity that is normally done by parents at home. Stratton (2015) shows that, in the UK, many households outsource meal preparation. In the case of routine housework, the relationship between parents' and children's time in this activity does not depend on the gender of parents or children. For the time devoted to odd jobs and domestic travel by children, only father's time in this activity is statistically significant, and in the case of the time devoted to shopping, both father's and mother's time in this activity is significant but the magnitude depends on the gender of the parent and/or the child. Thus, there are gendered differences in these relationships for odd jobs, domestic travel, and shopping, while there is no relationship between parents' and children's time in cooking and washing up activities.

In the case of childcare, we find that the only positive correlation for time in childcare is between mother's and daughter's time, while the time devoted by the father to this activity is negatively related to the time devoted by the children. The reasons behind these results may be that childcare can be seen as being important in the transmission of human capital to children (Heckman and Mosso, 2014), and thus parents may consider other reasons, apart from the intergenerational transmission of

attitudes to childcare, when they decide how much time to devote to this activity (see Guryan, Hurst and Kearney (2008) for a review of the various motives behind parents' time in childcare activities). Alternatively, parental role models, where childcare responsibilities are assumed to be exclusive to mothers may also help to explain these results (Sevilla, Gimenez-Nadal and Fernandez, 2010). These results are consistent with the idea that childcare should be modeled separately from other household chores and leisure (Folbre and Yoon, 2007), both of which have negative income gradients (Guryan, Hurst and Kearney, 2008).

3. The British Household Panel Survey

The British Household Panel Survey (BHPS) covers the period 1991-2008 and it is the most substantial longitudinal survey of households in the UK. It collects key information on changes in family composition, education, labor market experience, individual earnings, and family incomes and benefit receipts. Furthermore, the BHPS also asks all respondents in the years 1992-2008 about the number of hours per week devoted to housework.¹²

The sample is restricted to the same selection criteria as that for the MTUS, except that the age range of the child is now 16-18, as no information for younger children is available. The very small group of mothers (approximately 0.5%) reporting zero housework in an average week are excluded from the analysis, as this may be due to measurement errors or outliers, given that women tend to regularly participate in housework activities on a weekly basis. The final sample consists of a short-panel (maximum three waves) of 2,128 observations of boys and 2,250 observations of girls, from around 1,000 distinct young persons of each gender.

Table A3 in the Appendix shows the summary statistics of the BHPS sample by child's gender. While boys aged 16-18 only spend 0.29 hours per day on housework, girls spend 0.44 hours. 30% of boys and 15% of girls do no housework. Fathers of boys spend 0.82 hours per day on housework, whereas fathers of girls only spend 0.73 hours, with this difference being statistically significant. Consistent with the traditional household division of labor, mothers do more housework (2.93 hours per day) than fathers (0.77 hours per day). However, there is no statistically-significant difference in mother's housework hours by the child's gender.

Again, we add unity to daily housework hours before taking logs to allow for zero observations. We pool boys and girls together, but allow the variables of interest to interact with the child's gender. Columns (1) and (3) in Table 2 show the results of estimating Equation (1) on the time devoted to housework by children, according to the OLS and FE estimators, respectively, excluding socio-demographic controls. The R-squared indicates that the 5.6% and 0.2% of variation in children's housework time can be explained by parental housework time. Columns (2) and (4) of Table 2 show the OLS and FE estimates of the conventional intergenerational mobility model of housework behavior, using the same specification as for Table 1.¹³

OLS results suggest that a 10% increase in the father's housework time increases the

¹² The question is "About how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?".

¹³ Given BHPS's long time span, we additionally control for a linear time trend. The only difference from the specification used with the MTUS data is that we have 3 waves per respondent, and thus, in this case $t=1,2,3$. We do not find statistically-significant changes in the amount of time by children during the 3 waves.

time devoted to housework by the child by 0.71%, regardless of the gender of the child. In contrast, mother's housework time has no significant correlation with that of a girl, but is negatively correlated with that of a boy. When we allow for time-invariant unobservable heterogeneity, which would bias cross-sectional estimates, the positive effect of the father is almost halved, and becomes statistically insignificant. This implies that permanent household heterogeneity explains a significant proportion of the positive effect of father's housework time found in cross-sectional studies. This contrasts with the results using the UKTUS, as both the OLS and FE estimators yield positive and statistically significant coefficients of mothers and fathers' housework time on child's housework time.

Columns (5) and (7) in Table 2 show the results of estimating Equation (2) using the OLS and FE estimators, respectively, excluding socio-demographic controls. We find positive correlations between the child-mother housework ratio and that of the father-mother, indicating that the more time devoted to housework by the father in comparison to the mother, the more time the children devote to housework in comparison to the mother. Additionally, between 8.4% and 18.7% of the variation in the child-mother housework ratio can be explained by the father-mother housework ratio. Columns (6) and (8) of Table 2 show the results of estimating Equation (2) using the OLS and FE estimators, respectively. The OLS coefficient on the ratio of father-mother housework time in the child-mother housework time ratio equation is 0.098 and statistically significant at the 1% level. Once we account for permanent household heterogeneity, the size of the corresponding FE coefficient on the ratio of father-mother housework remains unchanged at 0.103, and significant at 10%.

The positive effect for fathers' housework time, relative to that of the mother, in FE specifications is a significant finding that sheds new light on the intergenerational mobility of housework behavior studies, which are plagued by an inability to make causal inferences with time-use data. But it could also be that others need to take responsibility for housework when mothers are not doing these activities. Thus, we cannot ascertain, at this stage, if the relationship is due to intergenerational mobility, until these children are observed at a later time. We focus on this issue below.

Whereas FE models control for permanent unobserved heterogeneity, it is well known that the attenuation bias arising from the classical measurement error problem under strict exogeneity may be exacerbated, leading to downward-biased estimates, especially when the time dimension is short, as in our case (Bound and Krueger 1991; Buddelmeyer, Mourre and Ward, 2008; Wooldridge 2010). Therefore, our FE and OLS estimates should be regarded as a lower bound of the intergenerational causal transmission of housework behavior. We address this problem using an instrumental variable (IV) strategy because our instruments are uncorrelated with the measurement error in the instrumented variable.¹⁴

Table 3 presents IV estimates for the ratio-form specification only, using father and mother's lagged weekly working hours as instruments. The use of lagged variables should help mitigate concerns about the validity of the instruments. Several papers have considered IV estimations in the context of intergenerational mobility. Solon (1992) and Dearden, Machin and Reed (1997) have used IVs to reduce issues of measurement error, while others have used IVs to identify the causal transmission from parents to children (e.g., Black and Devereux (2011) and Holmlund, Lindahl and Plug (2011) use

¹⁴Given the sample size and the 3-wave short panel, the FE-IV estimates are very imprecisely determined, and thus we are prevented from showing the results.

changes in the minimum school-leaving age to study the intergenerational transmission of schooling). Our IV estimation can be seen as a way to reduce potential measurement errors, rather than as a method of estimating a causal effect.

An increase of one percentage point (pp) in the father-mother housework ratio is associated with an increase in the child-mother housework ratio of 0.28 pp for girls and of 0.20 pp for boys. Moreover, the magnitudes of the IV estimates are two to three times greater than those from the corresponding FE estimates, consistent with the view that the latter can be regarded as lower bounds. The instruments are not only all individually significant at the 5% level, but also significant, jointly, at a high level. However, for girls, the F-statistic for the excluded instruments is below the threshold of 10, indicating that these instruments may be weak. Moreover, the over-identification tests suggest that we cannot reject the validity of the instruments, even at the 50% level.

Although the IV results should only be treated as tentative evidence, they nevertheless lend further support to our preferred FE specification, which can be regarded as the lower bound.¹⁵ Of the handful of studies on housework time that have applied both FE and IV methods, Hersch and Stratton (1997, 2002) and Bryan and Sevilla (2011) all conclude that housework is effectively exogenous in the FE specification, and therefore there is little to be gained from attempting the IV specification. Following Wooldridge (2010), we formally test the exogeneity of the father-mother housework ratio in the FE using a regression-based Hausman test.¹⁶ For both boys and girls, we fail to reject the null of exogeneity of the father-mother housework ratio. Thus, we conclude that the endogeneity issue is adequately dealt with in the FE specification, although FE may nevertheless only yield a lower bound of the causal effect, due to the exacerbated errors-in-variables bias caused by the differencing.

Following the literature on intergenerational mobility in earnings, we analyze how housework hours during childhood/adolescence are related to housework hours in adult life. To that end, we take advantage of the long panel structure of the BHPS to construct a sample where respondents are first observed at age 16-18 and then observed in their adulthood, between ages 25-35. This gives 543 males and 591 females with information on housework hours in both adolescence and early adulthood, which are 12 years apart on average. We regress the logarithm of housework hours when individuals are 25-35 (during adulthood) on the logarithm of housework hours when they were 16-18 (during adolescence).

Results are shown in Table 4, where Columns (1) and (4) show the results for men and women when we do not include any socio-demographic controls, Columns (2) and (5) show the results for men and women when we include age, education level, and labor status, and Columns (3) and (6) show the results for men and women when we also include controls for marital status and number of children. We observe a positive association between child housework hours on adult housework hours, for both men and women. The elasticity of child housework hours on adult housework hours is 0.10 and 0.14 for men and women, as a 10% increase in the average hours of housework during adolescence is related to a 1.0% and 1.4% increase in the average hours of housework during adulthood. When we include controls for age, education, labor status, and family status, despite that some of these controls may introduce a source of endogeneity, the

¹⁵Both our FE and IV results still hold when we exclude families with a child younger than 12, implying that our findings are not driven by the differential parental input into childcare.

¹⁶The test involves estimating the reduced form equation of the suspect endogenous variable on all exogenous variables and the instruments, and then plugging the residual into the structural equation, both in the FE form.

elasticity for men remains practically unchanged (0.11), and the elasticity for women decreases to 0.06 and is statistically significant at the 5% significance level. These results highlight the greater importance of personal and family characteristics on housework when adults for women, in comparison to men, but even for women there remains a positive correlation between housework hours during adolescence and during adulthood. In sum, we find that parents' housework time is related to children's housework time, and children's housework time is related to housework time when children become adults, which may be interpreted as evidence of the existence of the intergenerational mobility of housework time. Even though we cannot talk about causality, the results presented here may serve as a first step in understanding the intergenerational mobility of housework time.

4. Conclusions

Using the Multinational Time Use Study for the UK, we find positive correlations between parents' and children's housework time. In our preferred specification, we find that a higher father-mother housework ratio is positively related to a higher child-mother housework ratio, with this relationship being smaller for boys relative to girls. However, one limitation of cross-sectional data is that it does not allow us to identify the effect of parents' housework time net of (permanent) individual heterogeneity in preferences. Moreover, other unobservable factors may be related to both parents' and children's housework time, so we cannot speak definitively about a causal relationship between parents' and children's housework time.

Following prior recommendations (e.g., Gimenez-Nadal and Molina, 2013; 2014) we use a panel data with information on housework time. Using data from the British Household Panel Survey to account for permanent household unobserved heterogeneity, we find that only fathers' housework time, relative to that of the mothers, appears to have a statistically significant effect. However, with short panels such as ours, FE estimates may be biased towards zero as a result of exacerbated measurement errors. When parental housework time is instrumented using father's and mother's lagged weekly working hours, we find the IV estimates are not only highly statistically significant, but also of a magnitude more in line with those from the time use data.

To the extent that there may be parental control in a given household, it could be that when those parents do more housework, their children also do more housework at a given point in time. This effect would occur if the parents doing more housework instructed their children to also do more housework. Two arguments lend further support to the notion that parents may, in fact, be transmitting their preferences for housework to their children. First, in a collective model framework with household production (Chiappori, 1997), a public good is defined at the household level and both members of the household contribute to it. Within this framework, partners bargain about who contributes what to the household public good and, in this context, more time devoted by the parents to housework does not necessarily mean that children devote more time to housework. Second, the long panel of the BHPS allows us to link the housework time of the children when they are adolescents, and again when they are in their early adulthood, and we find children's housework time is related to housework time when the children become adults. To the extent that parents' housework time is related to children's housework time, we can interpret our results as evidence of the existence of intergenerational mobility of housework time, even though we cannot talk about causality.

Of the three main possible channels that explain the intergenerational transmission of housework time, the fact that there appears to be substantial correlation of housework time observed when aged 16-18, and when the same respondents are observed in their late 20s (in the BHPS), suggests that imitation may not be the main channel. Furthermore, we observe a high positive correlation between parents' and children's attitudinal questions (e.g., All in all, family life suffers when the woman has a full-time job; A husband's job is to earn money; a wife's job is to look after the home and family; both husband and wife should contribute to household income) that have been found to be representative of gender role attitudes (Scott, 2008), or associated with the domestic division of labor in Britain (Crompton, Brockman and Lyonette, 2005). All this evidence may indicate that gender roles and gender identity could be transmitted from parents to children according to a parental role model (Akerlof and Kranton, 2000), although more research on this issue is needed.

Our results may be helpful in targeting public policies towards greater gender equality. In particular, and given the reported gender gap in housework time in the UK (Gimenez-Nadal and Sevilla, 2012), policies aimed at increasing the participation of fathers in housework may foster a greater gender equality in housework time in the future. This issue is important because adolescents and young individuals have been identified as target groups for policies to eliminate gender inequality (United Nations Millennium Project, 2010). Ignoring such effects may lead to the sub-optimal design or use of these policies, which may include equalizing work arrangements (e.g., flexibility, commuting time), working time (e.g., duration, organization, predictability, irregularity), or equalizing parental leave conditions, as a way to increase the participation of men in housework tasks. Other policies may target children directly, and may include educational programs at school focusing on the formation of more equal gender roles in younger generations, and addressing the unequal share of paid and unpaid work between men and women.

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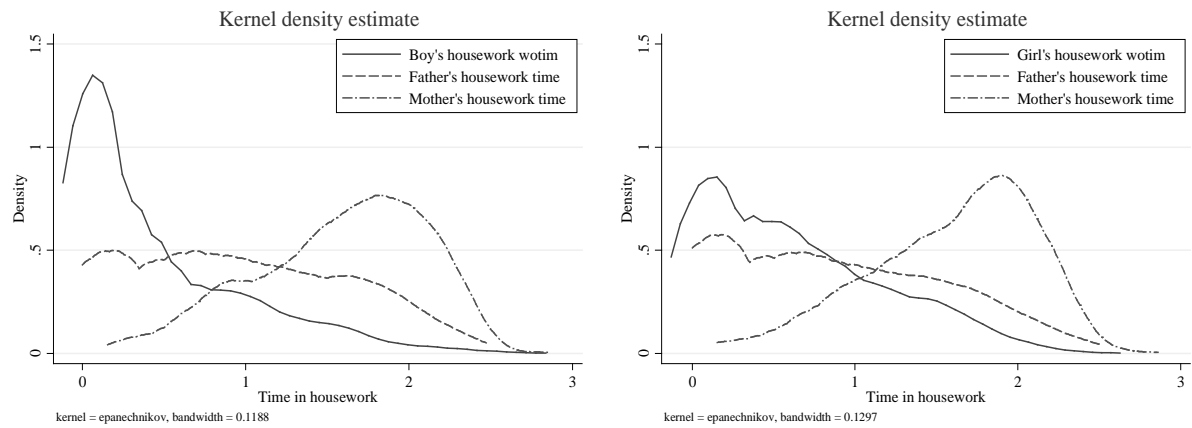
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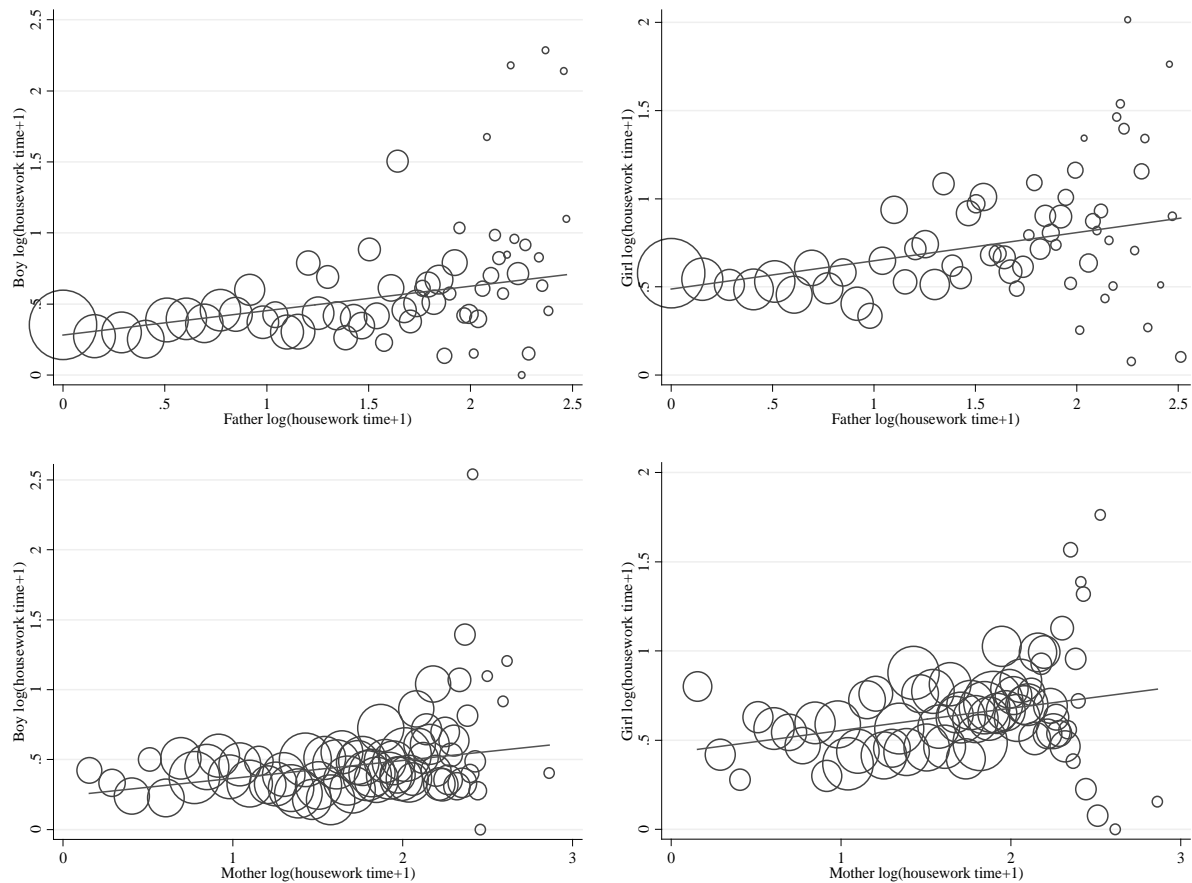
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Figure 1A. Distribution of housework time, log of housework time



Note: Sample consists of individuals who are between 11 and 18 years old, who are reported as being a child in the household, and living with two heterosexual parents, from the UK. We include parents of those children. Housework includes the total time devoted to the following activities: “cook, wash up”, “housework”, “odd jobs”, “shopping” and “domestic travel”, and is measured in hours per day.

Figure 1B. Mean time devoted to housework time, parents and children, total time



Note: Sample consists of individuals who are between 11 and 18 years old, who are reported as being a child in the household, and living with two heterosexual parents, from the UK. We include parents of those children. Housework includes the total time devoted to the following activities: “cook, wash up”, “housework”, “odd jobs”, “shopping” and “domestic travel”, and is measured in hours per day.

Table 1. Analysis of the United Kingdom Time Use Survey (2000)

	(1)	(2)	(3)	(4)	(5)	(6)
	Log(child's housework time + 1)			child/mother housework ratio		
	OLS no controls	OLS with controls	FE	OLS no controls	OLS with controls	FE
Log(father's housework time + 1)	0.143*** (0.030)	0.093*** (0.032)	0.116*** (0.040)	-	-	-
Log(father's housework time + 1)*son	0.017 (0.042)	0.026 (0.041)	0.065 (0.053)	-	-	-
Log(mother's housework time + 1)	0.108** (0.043)	0.097** (0.044)	0.154*** (0.055)	-	-	-
Log(mother's housework time + 1)*son	0.000 (0.055)	0.005 (0.054)	-0.079 (0.075)	-	-	-
Father/Mother housework ratio	-	-	-	0.314*** (0.044)	0.313*** (0.045)	0.301*** (0.018)
Father/Mother housework ratio*son	-	-	-	-0.113* (0.059)	-0.113* (0.059)	-0.079*** (0.026)
Son	-0.003** (0.002)	-0.004** (0.001)	-	-0.093* (0.053)	-0.097* (0.055)	-
Young Person's age	-	0.000* (0.000)	-	-	0.035*** (0.013)	-
Young Person is student	-	0.001 (0.001)	-	-	-0.122 (0.129)	-
Young Person is unemployed	-	0.003 (0.002)	-	-	-0.022 (0.149)	-
Young Person working full/part-time	-	-0.002* (0.001)	-	-	-0.129 (0.080)	-
Father secondary education	-	0.000 (0.001)	-	-	-0.017 (0.078)	-
Mother secondary education	-	0.000 (0.001)	-	-	0.027 (0.081)	-
Father higher education	-	-0.001 (0.001)	-	-	0.026 (0.100)	-
Mother higher education	-	0.000 (0.001)	-	-	-0.069 (0.078)	-
Father's age	-	0.000 (0.000)	-	-	-0.001 (0.005)	-
Mother's age	-	0.000 (0.000)	-	-	-0.004 (0.006)	-
Father working full/part-time	-	0.000 (0.001)	-	-	0.038 (0.054)	-
Mother working full/part-time	-	0.002** (0.001)	-	-	0.113** (0.051)	-
Number of individuals in household	-	0.000 (0.000)	-	-	-0.005 (0.020)	-
Number of children in household	-	0.000 (0.000)	-	-	-0.004 (0.008)	-
Household owns dwelling	-	0.001 (0.001)	-	-	0.108* (0.063)	-
Constant	0.005*** (0.001)	0.003 (0.003)	0.007*** (0.001)	0.212*** (0.043)	0.053 (0.186)	0.310*** (0.055)
Observations	1,747	1,747	1,747	1,747	1,747	1,747
R²	0.072	0.122	0.174	0.297	0.311	0.346

Notes. Robust standard errors clustered at the household level in parenthesis for Columns (1) and (3). The sample is restricted to children who are between 11 and 18 years old, and living with two heterosexual parents, from the UK. Columns (1) and (3) present results of OLS models, Columns (2) and (4) present results of FE models for children, respectively. Housework is measured in hours per day, and is defined as the sum of the time devoted to "cook, wash up", "housework", "odd jobs", "shopping" and "domestic travel." * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2. Analysis of the British Household Panel Survey (1992-2008)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log(child's housework time + 1)				child/mother housework ratio			
	OLS no controls	OLS with controls	FE no controls	FE with controls	OLS no controls	OLS with controls	FE no controls	FE with controls
Log(father's housework time + 1)	0.073*** (0.021)	0.071*** (0.021)	0.030 (0.030)	0.040 (0.030)	-	-	-	-
Log(father's housework time + 1)*son	0.015 (0.028)	0.007 (0.028)	0.020 (0.040)	0.006 (0.039)	-	-	-	-
Log(mother's housework time + 1)	0.014 (0.019)	0.013 (0.019)	-0.009 (0.027)	-0.002 (0.025)	-	-	-	-
Log(mother's housework time + 1)*son	-0.053** (0.024)	-0.053** (0.023)	0.008 (0.038)	0.004 (0.036)	-	-	-	-
Father/Mother housework ratio	-	-	-	-	0.099*** (0.020)	0.098*** (0.020)	0.105* (0.060)	0.103* (0.059)
Father/Mother housework ratio*son	-	-	-	-	0.020 (0.034)	0.021 (0.033)	-0.018 (0.063)	-0.017 (0.062)
Son	-0.045 (0.036)	-0.042 (0.035)	-	-	-0.071*** (0.016)	-0.072*** (0.016)	-	-
Young Person's age	-	0.020*** (0.005)	-	-0.019 (0.021)	-	0.020*** (0.006)	-	0.001 (0.029)
Young Person is student	-	-0.018 (0.024)	-	-0.013 (0.026)	-	-0.048 (0.036)	-	-0.005 (0.035)
Young Person is unemployed	-	0.095*** (0.034)	-	0.123*** (0.036)	-	0.049 (0.047)	-	0.059 (0.060)
Young Person working full/part-time	-	-0.041* (0.025)	-	-0.030 (0.027)	-	-0.067* (0.037)	-	-0.036 (0.033)
Fathers econdary education	-	-0.009 (0.016)	-	0.063 (0.075)	-	0.000 (0.017)	-	-0.062 (0.075)
Mothers econdaryeducation	-	-0.003 (0.015)	-	-0.102* (0.059)	-	-0.002 (0.016)	-	-0.106 (0.107)
Father higher education	-	0.010 (0.015)	-	0.017 (0.062)	-	0.029* (0.016)	-	-0.086 (0.072)
Mother higher education	-	0.004 (0.015)	-	-0.080 (0.049)	-	0.004 (0.016)	-	-0.106 (0.078)
Father's age	-	0.003* (0.002)	-	0.030 (0.020)	-	-0.001 (0.002)	-	0.009 (0.028)
Mother's age	-	-0.005** (0.002)	-	0.018 (0.019)	-	-0.001 (0.002)	-	0.007 (0.022)
Father working full/part-time	-	0.019 (0.021)	-	0.023 (0.032)	-	0.024 (0.029)	-	0.015 (0.044)
Mother working full/part-time	-	0.016 (0.016)	-	0.025 (0.021)	-	0.026 (0.020)	-	0.064** (0.027)
Number of individuals in household	-	0.028*** (0.009)	-	0.041*** (0.015)	-	0.006 (0.010)	-	0.022 (0.021)
Number of children in household	-	-0.024** (0.010)	-	-0.006 (0.013)	-	-0.021** (0.010)	-	0.052* (0.028)
Household owns dwelling	-	-0.009 (0.019)	-	0.029 (0.039)	-	-0.023 (0.021)	-	0.019 (0.036)
Wave Indicator	-	0.002 (0.001)	-	-0.007 (0.026)	-	0.004** (0.001)	-	0.024 (0.028)
Constant	0.271*** (0.029)	-0.114 (0.103)	0.260*** (0.026)	-1.769** (0.851)	0.172*** (0.010)	-0.120 (0.119)	0.144*** (0.015)	-0.906 (0.996)
Observations	4,378	4,378	4,378	4,378	4,378	4,378	4,378	4,378
R ²	0.056	0.08	0.002	0.043	0.187	0.201	0.084	0.104

Note: Robust standard errors clustered at the household level in parentheses. The sample is restricted to children who are between 16 and 18 years old, and living with two heterosexual parents, from the UK. Columns (1) and (5), and (3) and (7) present results of OLS models for boys and girls, respectively, Columns (2) and (6), and (4) and (8) present results of a FE model for boys and girls, respectively. Housework time variables constructed from the question "About how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?". * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3. IV estimates for the ratio-specification

	(1) Boys	(2) Girls
Father-mother housework ratio	0.196*** (0.045)	0.283*** (0.093)
Hansen J statistic $\chi^2(1)$ (p-value)	0.273 (0.601)	0.460 (0.498)
First-stage Estimates		
Father's lagged weekly working hours	-0.0056*** (0.0019)	-0.0046** (0.0020)
Mother's lagged weekly working hours	0.0120*** (0.0021)	0.0080*** (0.0028)
F-test of excluded instruments (p-value)	18.32 (0.000)	4.27 (0.014)
Observations	2,128	2,250

Note: Robust standard errors clustered at the household level in parentheses. The sample is restricted to children who are between 16 and 18 years old, and living with two heterosexual parents, from the UK. Housework time variables constructed from the question "About how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?". * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4. Effect of child (log) housework time on adult (log) housework time, by gender

	(1)	(2)	(3)	(4)	(5)	(6)
	Men			Women		
Log(adult housework time+1)	No control	Age, education and Employment controls	Family controls	No control	Age, education and Employment controls	Family controls
Log(teenage housework time+1)	0.104** (0.041)	0.102** (0.041)	0.108*** (0.041)	0.137*** (0.040)	0.106*** (0.036)	0.062** (0.031)
age at date of interview	-	0.020* (0.011)	0.008 (0.012)	-	0.063*** (0.010)	0.019** (0.009)
Years of schooling	-	0.019* (0.010)	0.020** (0.010)	-	-0.027*** (0.009)	0.000 (0.008)
Employee	-	-0.072 (0.095)	-0.095 (0.100)	-	-0.670*** (0.066)	-0.375*** (0.066)
Self-employed	-	-0.001 (0.140)	-0.037 (0.144)	-	-0.613*** (0.150)	-0.323** (0.135)
Married	-	-	0.341*** (0.095)	-	-	0.287*** (0.066)
Cohabiting	-	-	0.257*** (0.082)	-	-	0.397*** (0.061)
Divorced	-	-	0.524 (0.354)	-	-	0.289 (0.269)
Separated	-	-	0.246 (0.273)	-	-	-0.028 (0.221)
1 child	-	-	-0.126 (0.106)	-	-	0.408*** (0.067)
2 children	-	-	-0.167 (0.119)	-	-	0.624*** (0.078)
3 children	-	-	0.015 (0.169)	-	-	0.867*** (0.117)
4 children	-	-	1.104** (0.510)	-	-	0.816*** (0.184)
5 children	-	-	0.673 (0.714)	-	-	1.268*** (0.378)
6+ children	-	-	-	-	-	2.368*** (0.590)
Constant	1.474*** (0.050)	0.719** (0.341)	0.922*** (0.353)	2.103*** (0.059)	1.215*** (0.321)	1.443*** (0.288)
Observations	543	543	543	591	591	591
R²	0.012	0.026	0.073	0.020	0.234	0.426

Note: Robust standard errors in parentheses. The sample is restricted respondent was first observed during age 16-18 (as in our main analysis), and tracked till early adulthood between age 25-35, from the BHPS. Housework time variables constructed from the question "About how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?". Omitted category: Not working, Never married. *p< 0.1, **p< 0.05, ***p< 0.01.